

August 20, 2002

PUBLIC UTILITIES COMMISSION  
Electric Energy Conservation Programs  
(Chapter 380)

NOTICE OF RULEMAKING

WELCH, Chairman; DIAMOND and NUGENT, Commissioners

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**I. SUMMARY**

In this Order we open Docket No. 2002-473, to revise Chapter 380 of the Maine Public Utilities Commission's (Commission's) Rules. The revisions will implement portions of the requirements of the Conservation Act, enacted by the Maine Legislature as P.L. 2002, ch. 624.

**II. BACKGROUND**

Current Chapter 380 (Chapter 380-O) of the Commission's Rules was promulgated in response to An Act to Secure Environmental and Economic Benefits, enacted as P.L. 1999, ch. 336. This Act amended 35-A M.R.S.A. § 3211 and authorized the State Planning Office (SPO) to coordinate the development of a state energy policy and guide the development of statewide conservation programs to be implemented by transmission and distribution (T&D) utilities. The SPO's duties included creating overall objectives and strategies, reviewing and approving utility implementation plans, and monitoring and evaluating T&D utility programs. The amended section 3211 required the Commission to establish total conservation program expenditures for each T&D utility and to assess T&D utilities to fund the efforts of the SPO. We adopted existing Chapter 380 to implement the provisions of section 3211.

During the second session of the 120<sup>th</sup> Legislature, the Legislature passed An Act to Strengthen Energy Conservation (the Conservation Act, or the Act)<sup>1</sup> that became P.L. 2001, ch. 624, when the Governor signed the Act on April 5, 2002. The Conservation Act repeals section 3211 and replaces it with section 3211-A, which establishes new terms that govern an electric energy conservation program in Maine. The Act directs the Commission to develop and implement electric energy conservation programs that are consistent with the goals and objectives of an overall energy conservation program strategy that the Commission must establish. The programs

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<sup>1</sup> The Conservation Act may be found on the Commission's web page, [www.state.me.us/mpuc](http://www.state.me.us/mpuc), by accessing the "Electric Conservation Activity" site.

must be cost effective, according to a definition that the Commission also must establish.

We open this rulemaking to amend Chapter 380 to reflect the Conservation Act's repeal of section 3211 and enactment of section 3211-A. In the proposed Chapter 380, we define "low-income residential consumers and" small business consumers" and establish the test for cost effectiveness, as specifically directed in the Conservation Act. In addition, we include certain terms of the Act that will allow Chapter 380 to be a comprehensive compendium of the most significant requirements of the statewide electric conservation program

In anticipation of this rulemaking, we opened an Inquiry, Docket No. 2002-272, to receive comments and suggestions on the definitions of "low income residential consumers" and "small business consumers." We have used the comments we received to develop this draft rule. In the body of this Notice, we will discuss many of those comments.

In Docket No. 2002-161, we proposed and decided to implement interim conservation programs. As part of that process, we established a cost effectiveness test for interim programs, after proposing a test and receiving comments from interested persons. We also will discuss relevant comments on cost effectiveness in the body of this Notice.

### III. DISCUSSION OF INDIVIDUAL SECTIONS

#### A. Section 1: Purpose

Section 1 establishes that the purpose of Chapter 380 is to implement portions of the Conservation Act.

#### B. Section 2: Definitions

Section 2 contains the definitions of terms used in the proposed rule. Many of the definitions are derived directly from 35-A M.R.S.A. § 3211-A. The only terms over which the Commission may exercise any degree of discretion are "low-income residential consumers" and "small business consumers." Each of these groups must be the target of at least 20% of the conservation program funding developed and implemented by the Commission.

Subsection D defines "low-income residential consumer." In our Inquiry, Docket No. 2002-272, every commenter but one suggested that we adopt the criteria for receiving benefits under the Low Income Home Energy Assistance Program (LIHEAP) as the definition for low-income consumers within this Chapter. Generally, these commenters assert that adoption of the LIHEAP criteria will ease the administrative burden associated with low-income programs because community action agencies (CAPs) already take applications and certify eligibility based upon consistent statewide

criteria. The criteria are established annually through a planning and rulemaking procedure carried out by the Maine State Housing Authority (MSHA), which receives input from a wide range of low-income stakeholders. In addition, the criteria – or, more specifically, acceptance for LIHEAP assistance – are used for a variety of low-income assistance programs such as Telephone Lifeline and Linkup programs and the utilities' Electric Low-income Program (ELP). Commenters assert that this uniform approach will reduce confusion and is consistent with other utility-sponsored electric programs.

SESCO, Inc. submitted the only comments advocating a different definition for low-income consumers. According to SESCO, the LIHEAP criteria will restrict the group of customers for whom these special conservation programs should be implemented. Because LIHEAP-qualified customers already have other energy efficiency programs available to them, SESCO asserts that using the same eligibility for Commission-sponsored programs unfairly duplicates the effects of the existing programs. SESCO urges a wider definition, so that a larger number of customers would be eligible. Specifically, SESCO supports definitions that include:

- 1) a wider group of assistance recipients, including LIHEAP, TANF, food stamps, and housing subsidies;
- 2) residents in neighborhoods representing the poorest 20% of the state by per capita income; or
- 3) households at a greater percentage of federal poverty guidelines, in order to include “working poor” families – suggested at or below 250% of federal poverty guidelines, with renters and senior citizens qualifying at up to 300%.

The proposed rule defines “low-income consumer” using the LIHEAP criteria. We are persuaded that consistency with existing State programs will produce significant administrative savings and will eliminate potential confusion by those who are administering or benefiting from the program. Further, we expect our program designs to complement, rather than compete with, current programs such as LIHEAP and therefore do not see any conflict with these programs. In addition, SESCO's suggestion concerning qualification by neighborhood location rather than income level raises equity concerns. Neighborhoods in Maine, particularly in some of our rural communities, can have families with widely varying incomes residing side-by-side, creating the potential for misapplication of limited program funds.

Our proposed rule does not require a consumer to carry out the procedures to become certified for LIHEAP benefits to be considered a low-income consumer. The proposed rule simply states that the statewide criteria apply consistently to this rule. As a practical matter, our program designs may require that a consumer be certified as eligible before he or she may receive the benefits of a conservation program.

Subsection H defines “small business consumer.” Suggestions for the definition generally fell into two approaches. The first approach focused on the number of employees and the revenue generated, which are criteria used to access other

governmental programs, notably those administered by the Finance Authority of Maine (FAME) and the Department of Economic and Community Development (DECD). FAME and DECD target businesses with fewer than 50 employees or less than \$5 million in revenues, while the Small Business Development Center suggests targeting businesses with fewer than 100 employees for its programs. We understand that 98% of Maine businesses have fewer than 100 employees, while 96% of Maine businesses employ fewer than 50 employees.

The second approach focused on electricity usage, in particular T&D utility rate classifications. Each investor-owned T&D utility contains a rate classification for business customers with maximum monthly kW load below a particular level.<sup>2</sup> Some commenters asserted that this breakpoint is convenient and verifiable because a customer's electric delivery bill contains the customer's rate class. Using the utility rate class breakpoint is consistent with activities delivered by T&D utilities.

In establishing a definition of small business consumer, we considered two principles. First, we intend to choose a definition that will cause the statutory 20% targeted funding to reach customers who traditionally have not benefited from conservation programs.<sup>3</sup> Second, we intend to coordinate our conservation efforts with other State initiatives that assist small business consumers.

With this in mind, the proposed rule defines a small business consumer to be a business with fewer than 50 employees. This definition is consistent with that used by the State's business development community, allowing our programs to complement the economic development and loan programs offered by other State government entities. We chose 50 (rather than 100) employees because this definition is consistent with criteria used by more State organizations that we are certain to interact with as we implement our programs. We reject a suggested definition of 20 or fewer employees, because these levels could exclude some small businesses that have been underserved by previous programs. We do not propose to include company revenue as part of our definition, despite its inclusion in many agencies' criteria, because a revenue criterion would be complex to determine and confirm for the hundreds of customers who will participate in our programs.

Utility rate class definitions are convenient when utilities are implementing the programs, but are less convenient when that is no longer the case. Further, utility

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<sup>2</sup> CMP's SGS customers are 20 kW and below, BHE's General Service rate customers are 25 kW and below, and MPS's General Service rate customers are 50 kW and below.

<sup>3</sup> Some commenters suggested that, if we target 20% of available funding to small business customers and 20% to low-income customers, then all remaining funds will be targeted to "non-small" business customers and "non-low-income" residential customers, resulting in a proportionally low level of funding for small business customers. We disagree. The Act does not preclude us from applying a portion of the remaining 60% of funds to small business consumers.

rate class definitions are not consistent across the state, which could further complicate program marketing and implementation. We also reject utility rate class definitions because electricity use may be a poor indicator for the customers that the Act intended to assist through its 20% target requirement. There may be customers with electricity-intensive business processes who have limited staff to address issues of energy efficiency. It is arguably more important to provide assistance to these customers than to customers with lower electricity use. A definition that depends on employment level will allow such a customer to benefit from programs targeted to small businesses.

The definition clarifies the treatment of part-time employees and seasonal businesses. In addition, it states that, if a company has businesses in multiple locations, the number of employees in all locations shall be combined when determining the number of employees to be used under this definition. This provision excludes some smaller locations that are owned by larger chains, thereby limiting small business assistance to businesses that do not have access to the energy expertise that may be present through ownership by a regional or national organization. However, this treatment of businesses with multiple locations may be inconsistent with their treatment by other agencies dealing with small businesses. We invite commenters familiar with small business operations to comment on all portions of this definition.

C. Section 3: Conservation Programs

Section 3 of the proposed rule incorporates the terms in the Conservation Act that require the Commission to establish goals for the conservation programs. We include a substantial portion of the Act so that Chapter 380 will be a comprehensive compendium of the basic State conservation program requirements.

Subsection A of section 3 restates the criteria, in the form of high level goals, that the Commission must consider in selecting its portfolio of programs.

Subsection B states that the Commission shall establish goals, objectives, and strategies that will govern selection of conservation programs. We began that process when we issued our Proposed Order Establishing Goals, Objectives and Strategies for Conservation Programs on August 6, 2002, in Docket No. 2002-162. In that Proposed Order, we stated that the Act directs the Commission to develop an "overall energy strategy." We further stated that, in our view, it is not appropriate or reasonable for the Commission to develop a statewide energy policy that encompasses all fuels, nor is it necessary for successful implementation of the Act. It is more appropriate that we develop a group of goals, objectives, and strategies that will govern an electricity conservation program portfolio in a comprehensive manner. Subsection B reflects this approach, by requiring us to determine goals, objectives, and strategies for the statewide program.

Subsection B also establishes the immediate and longer-term processes the Commission will follow to establish and revise goals, objectives, and strategies for conservation programs. The Act directs us to determine a schedule to revise our

objectives and overall energy strategy. Subsection B guarantees that a revision process will occur no less frequently than every two years.

Subsection C summarizes the requirements in the Act that the statewide portfolio of conservation programs must be cost effective, must attain the goals, objectives, and strategies determined by the Commission and must be delivered without exceeding the assessed funds.

D. Section 4: Cost Effectiveness Criteria

In Docket No. 2002-161, we presented background and options for determining the cost effectiveness of interim programs.<sup>4</sup> We encourage interested persons to read the discussions in the Order in that proceeding and in the concurring opinion, and we have included those sections of the document in Appendices A and B. In that proceeding, we decided to rely on the framework established in Ch. 380-O to determine the cost effectiveness of individual interim programs and of the portfolio of programs. Under that framework, we rely on the All Ratepayers Test to screen for cost effectiveness, but we also consider whether a program or group of programs is likely to have a significant impact on T&D utility rates.

Historically, the Commission has considered three cost effectiveness tests. The primary test has been the All Ratepayers Test (ART), which measures whether a conservation program provides the same level of end use amenity (e.g. lighting or hot water) at a lower overall net cost to utilities and ratepayers taken together. The second test has been the Rate Impact Test, which measures the impact of a program on the average electric utility rate. Finally, the Societal Test is an expansion of the ART, in that it includes environmental and other social benefits external to the transaction between the utilities and their customers.

Most other states – and particularly Northeast states -- use variations of the ART, variously called Total Resource Cost Test, Modified Total Resource Cost Test, Societal Test, or Modified Societal Test. These tests are distinguished by the fact that they include costs or benefits associated with non-electric resources (e.g., increased use of gas or water), customer O&M expenses (e.g., reduced maintenance on a more efficient product), and improved ability to pay electric bills. They may include “spillover effects” (e.g., adoption of additional efficiency measures by customers outside of the efficiency program). Societal Tests may include costs and benefits accruing outside of Maine, such as environmental effects. Finally, some states attempt to include economic

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<sup>4</sup> The Proposed Order Establishing Goals and Criteria for Interim Conservation Programs, issued April 26, 2002 in Docket No. 2002-161, and the Order Establishing Interim Conservation Programs issued June 13, 2002 contain extensive discussion of cost effectiveness tests. Both documents are available on our web page, [www.state.me.up/mpuc](http://www.state.me.up/mpuc) in the “Electric Conservation Activity” site. Comments from interested persons are available on the Commission’s Virtual Docket, also available on our web page.

development and job creation benefits. On the other hand, some states consider cost effectiveness from the participant's perspective or from the utility's perspective.

Quantification of some of these costs and benefits is problematic. Some states solve this problem by creating a percentage adder to represent environmental or other non-quantifiable costs. In general, these adders are not meant to represent a measured level of benefit, but are meant to acknowledge that some benefit exists and should be recognized.

Appendix C contains a summary of the most common costs and benefits included in commonly considered cost effectiveness tests. Appendix D contains a summary of our understanding of other states' cost effectiveness tests.

In subsection A of section 4, we define a Modified Societal Test<sup>5</sup> as the cost effectiveness test that will be used for permanent (as opposed to interim) conservation programs. We intend to consider as many costs and benefits as are reasonably quantifiable, regardless of who pays or experiences the cost or benefit. This approach is consistent with the All Ratepayer Test approach taken in years past, but expands the approach to include factors that clearly result from the programs. We recognize that some factors will continue to be difficult to quantify. We do not propose creating a percentage adder to represent those factors. Rather, we intend to quantify when possible and simply report program effects when quantification is not possible.

Subsection 1 lists benefits to be included in the cost effectiveness calculation. Avoided electric generation costs will be estimated using regional prices. The proposed rule states that an average generation cost is adequate, but that more precise estimates based on time differentiation may be used when appropriate. Avoided T&D costs will rely on T&D utilities' marginal cost estimates, which also may be averages or time differentiated estimates. Utilities have commented that their marginal cost estimates are imprecise. However, they are clearly the most appropriate quantities available. Avoided fuel savings will include reduced use of oil, gas, or any other fuels saved. The proposed rule does not specify a method for calculating fuel savings – we will use the best estimate available. Similarly, avoided costs of water, sewer, or any other resource will be estimated as accurately as is possible and reasonable. Finally, subsection (e) establishes that any other benefit that we can reasonably quantify will be included in the cost effectiveness test. We conclude that these benefits are important outcomes of conservation programs – sometimes by design and sometimes by good fortune – and they should be acknowledged whenever possible.

Subsection 2 lists costs to be included in the cost effectiveness calculation. Direct program costs listed in subsection (a) and capital costs associated with the purchase and installation of appliances or equipment, listed in subsection (b), are traditional costs included in cost effectiveness tests. Subsection (c) lists other costs such as increased customer operation and maintenance costs. Considering such costs

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<sup>5</sup> This test could legitimately have been called a Modified Total Resource Cost Test.

is consistent with considering all benefits that can be recognized as resulting from a program.

Subsection 3 establishes guidelines for the discount rate to be used in cost effectiveness calculations. The cost effectiveness of a program is calculated from the perspective of Maine consumers as a whole (as opposed to only the participant). Thus, the discount rate should be a societal discount rate. Long-term treasury securities yields are reasonable for this purpose.

Subsection 4 establishes that costs and benefits will all be measured on a comparable, net present value, basis. This is a traditional, established calculation method.

Consistent with our intent to consider all costs and benefits that can be recognized, subsection 5 establishes that costs and benefits will be estimated for as many years in the future as seems reasonable.

Subsection B of section 4 accommodates programs that satisfy statutory or Commission-established goals but whose benefits cannot be quantified. While we will measure costs and benefits whenever possible, we conclude that there are programs that will benefit consumers in Maine, or that meet statutory criteria, but whose benefits cannot be reliably estimated. Indeed, there may be requirements of the Act that cannot be met if all programs must pass the Modified Societal Test. In particular, it may be impossible to spend 20% of total funds on low-income or small business programs and it may be impossible to conduct energy education as the Act contemplates, unless programs with non-quantifiable benefits are considered. The subsection includes three criteria, all of which must be met, before a program can be implemented without passing the Modified Societal cost effectiveness test. Subsection 4(B)(1) allows a program with non-quantifiable benefits to be implemented, while subsection 4(B)(2) establishes that the program must meet statutory or Commission-established goals and subsection 4(B)(3) establishes that the entire portfolio must be substantially cost effective.

This subsection creates the possibility that a program whose benefit-to-cost ratio *is* quantifiable but is less than one, and that meets particular goals, cannot be implemented. However, a program whose benefit-to-cost ratio *is not* quantifiable, and meets the same goals, may be implemented. We invite comments on these possibilities as well as on all potential outcomes of this subsection.

In addition to commenting on any aspect of our proposed cost effectiveness tests, we invite interested persons to express their views on whether there should be a quantitative standard for the distribution of benefits. To elaborate, the proposed test looks at benefits and costs in the aggregate. Should the Commission also be required to find that benefits will exceed costs for some minimum percentage of Maine consumers? For example, if it were determined that for a particular portfolio of programs the benefits will exceed the costs in the aggregate (i.e., the portfolio passes



the Modified Societal Test) but that only 20% of consumers will actually receive more in benefits than they pay in costs, should that portfolio be deemed cost effective?

We also welcome comments on whether the existence of statutory requirements that certain percentages of the spending be directed at specified groups and that all groups be given the opportunity to participate warrants the conclusion that the Legislature did not expect the Commission to deal further with distributional equity issues. Even if one answers this question in the negative, is it realistic to expect the Commission to be able to determine the percentage of ratepayers who will have a benefit-to-cost ratio in excess of 1 for a particular program or portfolio of programs? Finally, given the Commission's conclusion that the Rate Impact Test is not feasible in a restructured environment, which means that some and perhaps many ratepayers may have costs in excess of benefits from these programs, should the Commission suggest to the Legislature that it may want to reexamine the statute?<sup>6</sup>

E. Section 5: Funding Level

Section 5 of the proposed rule restates the terms in the Conservation Act that establish a funding mechanism for the conservation programs. We include this restatement of law so that Chapter 380 will be a comprehensive compendium of the basic State conservation program requirements. Subsection A directly quotes the Act, and describes the upper and lower bounds of the amounts the Commission will assess T&D utilities to fund the programs. Subsections C and D directly quote the Act, and describe the means by which the Commission will categorize the budget and spending of the funds assessed. Subsection B is not contained in the Act. It establishes broad guidelines for determining the dollar amount that we will assess as time goes by. It states that the Commission's periodic assessment will be based on projections of the factors<sup>7</sup> that determine the assessment, but that reconciliation will occur to ensure that the assessment over time comports with the actual values of those factors.

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<sup>6</sup> This does not necessarily mean abandoning the concept of imposing an assessment on ratepayers for the purpose of achieving societal goals related to the use of electricity. To the contrary, a relevant question is whether there are more effective ways to achieve the objectives usually associated with conservation programs. For example, for purposes of protecting the environment, might it be more effective to use some of the assessment to promote green power or to force changes in environmentally unfriendly generation facilities rather than rely entirely on the proposition that using electricity more efficiently is generally good for the environment?

<sup>7</sup> Pursuant to the Act, assessments must be capped at 1.5 mils per kWh, but must be no less than 0.5% of revenues. Currently, we assess CMP based on its kWh sales, and we assess all other utilities based on revenues. We will determine the basis – whether sales, revenues, or some other factor – and the level for long-term assessments in future proceedings.

F. Section 6: Waiver or Exemption

Section 6 contains terms governing waiver or exemption from the Chapter. These terms are standardized throughout the Commissions rules.

#### IV. PROCEDURES FOR THIS RULEMAKING

This rulemaking will be conducted pursuant to the procedures of 5 M.R.S.A. §§ 8051-8058. A public hearing on this proposed Rule will be held on Thursday, September 19, 2002 at 9:30 a.m. at the Public Utilities Commission. Written comments on the proposed Rule may be filed with the Administrative Director until September 30, 2002. However, the Commission strongly recommends that comments be filed by September 13, 2001 to allow for follow-up inquiries during the hearing. Supplemental comments may be filed after the hearing. Written comments should refer to the docket number of this proceeding, Docket No. 2002-473, and be sent to the Administrative Director, Public Utilities Commission, 242 State Street, 18 State House Station, Augusta, Maine 04333-0018.

Please notify the Public Utilities Commission if special accommodations are needed to make the hearing accessible to you by calling 1-287-1396 or TTY 1-800-437-1220. The Commission must receive requests for reasonable special accommodations 48 hours before the scheduled event.

Accordingly, we

#### O R D E R

1. That the Administrative Director send this Notice of Rulemaking to the following:
  - a. All transmission and distribution utilities in the State;
  - b. All interested persons in Docket Nos. 2002-161, 2002-162 and 2002-272; and
  - c. All people who have filed with the Commission within the past year a written request of Notice of Rulemaking.
2. That the Administrative Director send a copy of this Notice and amended rule to the Secretary of State for publication in accordance with 5 M.R.S.A. § 8053 and to the Executive Director of the Legislative Council, State House Station #115, Augusta, Maine 04333 (20 copies)

Dated at Augusta, Maine, this 20<sup>th</sup> day of August, 2002.

BY ORDER OF THE COMMISSION

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Dennis L. Keschl  
Administrative Director

COMMISSIONERS VOTING FOR:      Nugent  
   Diamond

COMMISSIONER ABSENT:              Welch

**Appendix A**  
**Selected Text from the Commission's June 13, 2002 Order Establishing Interim Conservation Programs**

The Conservation Act requires that the Commission only implement interim programs that it finds cost effective.<sup>8</sup> In implementing section 7 of the Act, we seek to answer three broad questions: (1) how will we evaluate the cost effectiveness of specific interim programs, (2) to what extent should we consider the provisions of newly-enacted 35-A M.R.S.A. § 3211-A (section 4 of the Act) when approving interim programs, and 3) are there other criteria to consider?

A. Cost Effectiveness

1. Appropriate tests

Cost effectiveness testing for conservation programs has a long history before this Commission. For example, the Electric Rate Reform Act stated 25 years ago that

The Commission, as it determines appropriate, shall order electric public utilities to submit specific rate design proposals and related programs for implementing energy conservation techniques and innovations ... Such proposals shall, as the Commission determines, be designed to encourage energy conservation, minimize the need for new electrical generating capacity, and minimize the costs of electricity to consumers... (Public Laws, 1977, Chapter 521).

Thus, we have spent the last twenty-five years considering, and periodically reconsidering, how to test whether proposed conservation measures are likely to minimize electricity (and sometimes other) costs. The debate typically is framed in terms of which of various cost effectiveness tests should be applied. That debate is generally reducible to a debate over our goals in adopting conservation programs.

Our last thorough review of this question was in 1988, when we adopted amendments to Chapter 380, Demand Side Energy Management Programs by Electric Utilities, (Docket No. 88-178).<sup>9</sup> When considering the cost effectiveness of

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<sup>8</sup> A program cannot definitively be found cost effective until after it has been in operation for some period of time and an evaluation has been performed. We interpret the Act's requirement to require that we determine that an interim program is highly likely to be cost effective.

<sup>9</sup> This version of the rule was replaced in 1999 with a new version reflecting the provisions of 35-A MRSA §3211, which assigned many of the responsibilities for conservation programs to the State Planning Office. The Conservation Act repeals §3211 and returns responsibility for conservation programs to the Commission.

interim conservation programs, we propose to use the cost effectiveness framework established in the original Chapter 380 (Ch. 380-O).

Ch. 380-O defined three cost effectiveness tests, but principally relied upon the “All Ratepayers Test.” This test measures whether a proposed conservation program provides the same level of end use amenity (e.g. lighting or hot water) at a lower overall net cost to utilities and ratepayers taken together.

The second cost effectiveness test in Ch. 380-O was the “Rate Impact Test.” This test measures the impact of a conservation program on the overall average rate of the electric utility (in \$ per kWh) rather than the total dollar cost. This is a stricter test than the All Ratepayers Test. A decline in electricity use, from a conservation program or for some other purpose, will tend to reduce the utility’s profit, to the extent the reduction in revenue from lower sales is greater than the utility’s savings from lower sales. At the present time, with utilities limited to the transmission and distribution (T&D) business and continuing to carry substantial stranded costs in their rates, it is unlikely that many conservation programs will pass the Rate Impact Test.<sup>10</sup>

The third cost effectiveness test in Ch. 380-O was the Societal Test, which included all elements of the All Ratepayers Test as well as “environmental benefits and any other social benefits external to the transaction between the utilities and its customers.”

Ch. 380-O provided for automatic approval of any programs that passed both the All Ratepayers Test and the Rate Impact Test and for programs that passed the All Ratepayers Test and did not have a significant (defined as one percent) impact on the average rate per kWh. There was no indication in Ch. 380-O of how, if at all, the Societal Test should be employed in analyzing conservation programs.

For purposes of determining the cost effectiveness of interim conservation programs, we will utilize the framework established in Ch. 380-O. We will rely primarily on the All Ratepayers Test to screen for cost effectiveness but will also consider whether conservation programs, or groups of programs, are likely to have a significant impact on rates.<sup>11</sup> In addition, just as Ch. 380-O provided the Commission with flexibility to approve programs that did not meet these thresholds, we will not automatically reject programs that fail to meet either or both of these tests if there is sufficient evidence that the programs are likely to prove cost effective by some other reasonable measure. For example, we might approve an interim program that targets specific ratepayer populations or a pilot program that aids in gathering information to develop future conservation programs or lays a foundation that promises to enhance program effectiveness over time.

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<sup>10</sup> The exception here may be conservation programs which are primarily focused on use during on-peak periods.

<sup>11</sup> Under alternative rate plans, some utilities’ rates would not be affected immediately, if at all.

## 2. Comments on the Proposed Order

Two parties, CMP and the Residential/Small Commercial Service Providers Coalition (the Coalition), provided comments that were almost diametrically opposed. CMP argued that we should rely upon the Rate Impact Test on the grounds that conservation funding was being recovered through a surcharge on electric rates. The Coalition argued that we should retain the All Ratepayers Test but consider the avoided cost to be the avoided cost to the individual ratepayer (i.e., the electricity rate) rather than avoided (or marginal) costs of generating and consuming less electricity.

We believe that the most appropriate approach to cost benefit determinations is to consider whether the total cost to society would be lower if a particular conservation action is taken. Adopting CMP's suggestion of the Rate Impact Test would result in our rejecting conservation measures which produce a net decrease in total costs. Thus, we will not accept CMP's suggested use of the Rate Impact Test. Similarly, we will reject the Coalition suggestion to use retail rates as avoided costs. The Coalition recommendation could, and probably would, have us approving conservation programs which raise overall costs. This would occur whenever the savings to an individual ratepayer would come only at the expense of imposing additional costs on other ratepayers which exceeded the savings to the participants.

Another, perhaps simpler, way of stating this issue is to compare two hypothetical cases. Each case focuses on a conservation measure which results in lower costs to the participant in the conservation program. In the first, the participant saves \$100 while other ratepayers incur a cost of \$50. CMP would have us reject this program because the \$50 loss would violate the Rate Impact Test. In the second case, the \$100 savings yields a \$150 loss to other ratepayers. The Coalition would have us approve the program because the participant would save \$100. Under the All Ratepayers Test, we would approve the first program, since the gain to the participant is greater than the loss to others, but we would reject the second program since it would result in a net loss. We believe this to be the right outcome and will rely primarily on the All Ratepayers Test.

In addition, Glenn Reed of NEEP offered two recommendations regarding cost effectiveness. First, Mr. Reed suggested that we analyze cost effectiveness on a multi-year basis to reflect the fact that a program may be beneficial over its entire lifetime even if it were not cost effective in one or more individual years. Here, we agree with Mr. Reed in concept, but note that all of the cost effectiveness tests should take a multiyear perspective while discounting future benefits relative to immediate benefits. This is, and has been, a common practice. Mr. Reed also suggests that we include non-electric benefits (e.g., savings of other operating costs) as well as program impacts which occur outside the program itself (e.g., post program adoption of efficiency measures). Here too, we agree in principle, but with the observation that such effects may be difficult to estimate reliably.

Finally, Competitive Energy Services (CES) is concerned that we should be certain that our cost benefit tests fully capture the effects of conservation measures on our estimates of the likely price of electric energy. Specifically, CES states: "We know that demand-side response has a very powerful effect on the establishment of market clearing prices in NEPOOL which then reduce the cost of electricity to all other ratepayers in the market. This benefit of DSM appears to be missing from the calculation methodology proposed by the Commission".

While the concern raised by CES is theoretically correct, it is unlikely to have any significant effect on the analysis of any individual interim DSM program. In most, if not all, cases, the interim programs we will consider are too small to exert a significant impact on the energy market and a method for estimating such an effect requires development. That said, we would not rule out considering such secondary impacts where there is credible evidence that those impacts are significant and could be reasonably estimated.

### 3. Calculation of Costs and Savings

Beyond the specific choice of which cost effectiveness tests to use, there are also data issues. While program costs and energy savings can be considered on a case-by-case basis, certain principles apply to all programs.

First, we establish methods for converting energy savings into dollar cost savings. Ch. 380-O relied on estimations of avoided costs. While prior to restructuring the Commission periodically approved avoided costs for each of the large electric utilities, we no longer do so. When considering interim conservation programs, we will determine generation cost savings by looking to the competitive generation market. For residential and small commercial and industrial (C&I) customers, we will use the prices under existing standard offer contracts for the remaining term of those contracts, since most residential and small C&I customers take service under the standard offer. For other customers, we will base estimates of cost savings on current market conditions as reported in the trade press (e.g. the Natsource quotes of electricity prices for futures contracts). Where the futures market is thinly traded, we will rely on the next best available sources<sup>12</sup>.

L. K. Goldfarb Associates suggested using long-term avoided costs recently developed and approved in Massachusetts. CMP proposed using the T&D utilities' entitlement sales prices as estimates of avoided generation cost. MPS and BHE commented that standard offer prices reflect shorter term, rather than long-term, avoided costs. We will consider these viewpoints when we determine cost effectiveness analysis for long-term programs in Docket No. 2002-162. We believe the simpler approach we have accepted in this Order is adequate for judging interim programs in the short time frame in which we are operating.

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<sup>12</sup> For example, the US Department of Energy routinely publishes forecasted energy prices. See <http://www.eia.doe.gov/oiaf/aeo/index.html>.

We propose to base delivery cost savings (i.e., the costs saved for transmission and distribution) on the marginal T&D costs used to evaluate special rate contracts under utilities' pricing flexibility programs. The Commission routinely approves marginal costs for some utilities. We plan to use reasonable estimates of marginal costs for utilities that have not filed marginal costs in recent years.

CMP commented that its marginal cost calculations are not particularly reliable. However, these values are quite small and will serve to represent that there is some cost, although small, associated with T&D delivery. We also note that CMP has endorsed use of these estimates for other purposes.

Finally, many states currently use cost effectiveness tests that include costs or benefits associated with non-electric resources (e.g., increased use of gas or water), customer O&M expenses (e.g., reduced maintenance on a more efficient product), post-program adoption (e.g., the removal of an efficiency measure), and so-called "spillover effects" (e.g., adoption of additional efficiency measures in response to customers' satisfaction with the original measure). Many commenters supported including such costs and benefits, but only if they can be reliably calculated. We agree. The All Ratepayers Test does not preclude considering such costs and benefits, and we will do so to the extent they can be reasonably well quantified and are reasonably certain to occur.

#### 4. Ability to Calculate Cost Effectiveness

Conservation programs may be divided broadly into two categories, which we will call primary-effect programs and secondary-effect programs. Primary-effect programs are those in which program funding is directly related to kWhs saved. For example, a program that pays a customer a fixed rebate to replace an existing motor with a more efficient motor is a primary-effect program. Program planners can be reasonably certain that some level of savings will occur and can either directly measure the savings or can make a reasonable calculation of savings based on engineering estimates.

Secondary-effect programs are those in which funding is paid to an intermediary, who in turn uses the money for one of a variety of purposes aimed at influencing an energy consumer's behavior. For example, an education or advertising program funds an entity that then influences consumers to use less energy or use it more efficiently. In this instance, cost effectiveness is more difficult to measure, since there is no direct link allowing program planners to measure behavior that results from the program.

While we recognize that both types of programs have advantages and disadvantages, we will strongly favor primary-effect programs in the interim



period.<sup>13</sup> Secondary-effect programs necessarily require more investigation before we can ascertain effectiveness and therefore we are less likely to be able to evaluate their cost effectiveness sufficiently to implement them on an interim basis this summer. Most commenters agreed with our preference, with some commenters asserting that only primary-effect programs should be operated in the interim period. While favoring primary-effect programs, we will not foreclose the possibility of offering secondary-effect programs, because some education and training programs appear to pose clear benefits to consumers.

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<sup>13</sup> However, primary-effect and secondary-effect programs exhibit competing advantages. While secondary-effect benefits are more difficult to measure, secondary-effect programs may have the advantage of benefiting a larger number of consumers.

**Appendix B**  
**Separate Opinion of Commissioner Diamond**  
**from the Commission's June 13, 2002 Order Establishing Interim Conservation**  
**Programs**

I concur with the decision of the Commission on the cost effectiveness test for interim conservation programs and on the specific programs to be adopted. In doing so, I am motivated in part by the need to implement at least some programs without further delay and by the Commission's past reliance on the All Ratepayers Test. I have sufficient doubts about that test, however, that I believe it warrants further scrutiny when we consider permanent conservation programs, a process for which we will fortunately have more time.<sup>14</sup> Thus, the purpose of this separate opinion is to raise certain cost effectiveness issues that I hope will be more completely addressed in the context of the permanent programs.

Before discussing the All Ratepayers Test, let me offer some brief observations about the two alternatives - the Rate Impact Test and the Societal Test. Both have perfectly reasonable goals, but as discussed in the Commission's Order, have defects in serving as measurement tools, especially for specific programs.

Projects that pass the Rate Impact Test are easy to justify in theory. If the savings of the non-participant for the same amount of electric consumption are greater than the amount of the conservation assessment, everybody wins, with the possible exception of the shareholders of utilities under long-term incentive rate plans. Unfortunately, with a competitive wholesale electricity market that operates on a regional basis, we may never be able to conclude with any confidence that a particular conservation program or portfolio of programs reduces the price of power by a material amount, thereby calling into question the future relevance of this test.<sup>15</sup> In addition, use of this test would militate in favor of concentrating on peak shaving programs, as that is where there would be the greatest potential to reduce energy prices.

I also support the theoretical underpinnings of the Societal Test, since benefits such as a cleaner environment and a stronger economy inure to all. Again, my problem is whether anyone can demonstrate a sufficient nexus between traditional conservation programs and these benefits to satisfy a cost effectiveness test. For example, there may well be more direct ways to improve the environment than through programs that do not differentiate between electricity generated by wind and by coal. If environmental protection is indeed one's goal, would we not get more bang for the buck by spending to promote green power than by spending to curtail usage regardless of the generation

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<sup>14</sup> While the Order observes that the Commission has been struggling for 25 years with the question of how to measure the cost effectiveness of conservation programs, this is the first time it has received in-depth consideration during my tenure.

<sup>15</sup> How to measure the impact of conservation programs on the price paid for electricity by non-participants may warrant further consideration when we address permanent programs.

source? In short, the broader goals envisioned by the Societal Test require a far more expansive consideration of the alternatives, including those that do not involve conserving electricity.

Given the great difficulty, if not the impossibility, of measuring benefits under the tests described above, the decision to rely on the All Ratepayers Test is not surprising. Under that approach, we treat all consumers as if they are a single consumer by measuring whether, as a group, their savings in electricity costs under a particular program are greater than the cost to them of that program.

As I understand it, the benefit from satisfying the All Ratepayers Test is that as a society we spend less for electricity, through greater efficiency rather than through diminished output, and thus have more to spend on other goods and services. By itself, that certainly is a laudable goal. The problem arises, however, from the fact that especially in limited participant programs,<sup>16</sup> the costs are borne by the many and the benefits go to the few, and it falls to government to effect this transfer in wealth. And if the object is to maximize the amount of electricity saved, the argument can be made that the winners should be those who use the most electricity in the most inefficient manner, as they have the potential to achieve the greatest savings.

My doubts about the wisdom of using this collective approach to measuring costs and benefits to justify having government transfer wealth stem in part from the following question: if this is such a good idea, why do we not do it in other areas? Why do we not impose an assessment on heating oil purchases and operate heating oil conservation programs whenever we can demonstrate that the collectively measured gains will be greater than the collectively measured costs? Why do we not impose an assessment on car purchases and give stipends to some customers to purchase hybrid cars if the aggregate savings in gasoline will be greater than the total amount of the assessments? These programs arguably have the added advantage of promoting national security.

Indeed, we could have this type of program for any commodity for which bulk purchases are available. As a group, we might be able to buy oranges more cheaply with a modest assessment on all given to some to buy in bulk. By spending less as a society on Vitamin C, we could spend more on Vitamin A.

My uneasiness is only enhanced by the fact that the transfer of wealth accompanying this collectivization of costs and benefits is carried out not by the market but by government. It was hardly surprising that we received an unusually large number of comment letters in this Docket and that the vast majority support conservation. As

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<sup>16</sup> My doubts about the All Ratepayers Test are strongest in the context of limited participant programs, as the savings are enjoyed by only a few consumers while the majority pays more. Unfortunately, these are often the primary effect programs, in which the savings are easiest to measure. As a result, achieving certainty of savings and a broad distribution of benefits may at times be conflicting goals.

with any endeavor where the benefits to a few may be substantial<sup>17</sup> and the cost to the many modest, those whose only involvement may be to pay the assessment are too busy making a living and raising a family to intervene in Commission proceedings.

In fairness, certain conservation programs involve a minimal or no transfer of wealth and are thus easy to justify. For example, improving the efficiency of government buildings potentially benefits all taxpayers, and thus, the same people pay for and benefit from the project.<sup>18</sup> In programs designed for low-income electric consumers, the transfer of wealth may itself be a valid objective, and in light of Maine's statewide assistance program, reducing consumption by this group may actually result in savings for all ratepayers.

One way of addressing the distributional equity issue is by requiring, as the Conservation Act endeavors to do, that the benefits be spread among the different classes of ratepayers. While this may limit the problem, it does not eliminate the question of whether and under what circumstances this transfer of wealth is justified, especially if one is unable to demonstrate that the programs are really the best way to achieve other social goals. Before we spend other people's money, we have an obligation to fully answer that question, and I look forward to doing so when we consider the permanent conservation programs.<sup>19</sup>

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<sup>17</sup> The possibility that some of these programs might someday be seen as boondoggles is enhanced by the fact that the All Ratepayers Test only allows projects with savings greater than costs. Thus, we are transferring wealth to subsidize measures which, even without the subsidy, would benefit the participants.

<sup>18</sup> To the extent that a conservation assessment is a more regressive way to raise money than the income tax, there is the question of why we should use the former to achieve savings in the latter. This arises because at the State level, the assessment would be used for the conservation measure while the electricity bill is paid with tax dollars.

<sup>19</sup> It may be argued that by passing the Conservation Act, the Legislature answered this question. The Act, however, gives the Commission extremely broad discretion in deciding cost effectiveness and determining the amount to spend on conservation, and I believe the issues raised in this opinion should be addressed if we are to carry out those tasks in a thoughtful manner. Alternatively, we might decide to raise these issues with the Legislature if we conclude we need clearer guidance on how it would like us to proceed.

## Appendix C

### Components of Cost Effectiveness Tests

Test	Participants	Utility Cost	All Ratepayers	Total Resource	Societal
<b>Measures</b>					
Participants	y	y	y	y	y
Spillover (a)			y	y	y
Free Riders (b)		y	y	y	y
Post Program Adopters (c)				y	y
<b>Benefits</b>					
Avoided electricity					
Energy	(1)	y	y	y	y
Capacity		y	y	y	y
T&D		y	y	y	y
Avoided resources					
Gas & oil	(1)			y	y
Water & other	(1)			y	y
Customer benefits	y		y	y	y
Other benefits					
quantified					y
non-quant. Adder (d)				(2)	(2)
<b>Costs</b>					
Program costs		y	y	y	y
Customer Costs	y		y	y	y
Performance incentives (e)				(3)	(3)

#### Notes

- 1 At retail rates
- 2 Adders included in some states
- 3 Incentives included in some states

#### Definitions

- a Those EEM's installed as a result of, but outside a program
- b Those EEM's that receive an incentive, but would have been purchased/installed even without the program
- c Those measures that are installed, outside of a program, after the program has ended
- d A percentage added to EEM benefits, to account for environmental benefits that have not been measured or quantified
- e Some states allow utilities to earn an incentive, based on their performance relative to a set of energy efficiency program metrics

### Appendix D Comparison of Cost Effectiveness

State	NH	VT	MA	RI	CT	NY	NJ	OH	TX	CA	PNW
Test	TRC	Societal	Mod.TRC	Mod.TRC	(3)	TRC	Societal			Societal	Societal
<b>Measures</b>											
Participants	y	y	y	y		y		y	y		y
Spillover	y	y	y	(2)		y					y
Free Riders		y	y								y
Post Program Adopters	y	y	y			y					y
<b>Benefits</b>											
Avoided electricity											
Energy	y	y	y	y		y		(5)	y		y
Capacity	y	y	y	y		y		(5)	y		y
T&D	y	y	y	y		y		(5)			y
Avoided resources											
Gas & oil	y	y	y			y					y
Water & other	y	y	y			y					y
Customer benefits	y	y	y			y		y			y
Other benefits											
quantified	y	y	y			(4)		y			y
non-quant. adder	15%	(1)							(6)		(7)
<b>Costs</b>											
Program costs	y	y	y	y		y		y	y		y
Customer Costs	y	y	y			y		y			y
Performance incentives	y	y	y	y							

**Notes**

- 1 Vt adds 0.07 cts/kwh for env. externalities and an 11% adder on benefits for risk mitigation.
- 2 RI includes participant spillover only
- 3 CT is in the process of reviewing tests; currently they use a TRC for res. & LI (some w/ a 15% adder) and a UCT for C&I
- 4 NY includes non-resource benefits only where they could be reasonably quantified, and thus are probably understating them
- 5 OH uses retail electricity prices, and assesses programs from a customer perspective
- 6 TX uses a 20% adder in non-attainment areas only
- 7 OR adds a 10% conservation credit; MT uses 15%; ID & WA don't have an adder